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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,468	06/23/2003	Venkat Selvamanickam	SPP 20.070	2661

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EXAMINER

MCNEIL, JENNIFER C

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,468

Applicant(s)

SELVAMANICKAM ET AL.

Examiner

Jennifer C. McNeil

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-43 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 23-43 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to the amendment filed July 20, 2005 in which all pending claims were canceled and new claims 23-43 were introduced.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23, 31-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Bhargava et al (US 5,106,828). Bhargava teaches a method of fabricating superconductors by sol-gel process in which the superconductor layers are formed on a substrate by spraying a film of the sol onto a substrate, and building up the film thickness by successive applications of the same material.

Regarding claims 31-34, Bhargava teaches a superconductor composition of a ternary oxide system for A, B, and Cu oxides, wherein A is yttrium or a rare earth, B is an alkaline earth such as Ba or Sr, and gives an example of YBCO. Samarium is a rare earth metal and would be considered an obvious choice for the rare earth.

Regarding claims 35-40, Bhargava gives an example of a film of 3 microns in thickness, and further examples where the deposition is repeated from 6 to 12 times.

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Regarding claims 41 and 42, the article of Bhargava is made of similar material and would therefore be expected to have similar characteristics.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-25, 31-37, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jia et al (US 6,383,989) in view of Bhargava et al (US 5,106,828). Jia teaches a high critical current superconducting tape. The tape may comprise a YSZ coated substrate with the subsequent layer compositions and thicknesses: 1.1 micron YBCO/ 0.22 micron SmBCO/ 1.1 micron YBCO/ 0.22 micron SmBCO/ 1.1 micron YBCO (see example 4). Jia does not teach multiple films of the same superconductor material. Bhargava teaches a method of fabricating superconductors by sol-gel process in which the superconductor layers are formed by spraying a film of the sol onto a substrate, and building up the film thickness by successive applications. Bhargava also teaches similar superconductor material. As it is clearly taught by Bhargava that a successful method of deposition of superconductor layers on a substrate includes successive deposition, it would have

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been obvious to one of ordinary skill in the art to form the individual layers of Jia by the method taught by Bhargava in which each of the superconductor layers is built up to the desired thickness by successive applications of the same material.

Regarding claims 24 and 25, Jia teaches a metal substrate which may comprise nickel.

Regarding claims 35-37, it would have been obvious to one of ordinary skill to deposit as many successive layers as needed to form the desired thickness.

Regarding claims 41 and 42, the article of Jia is made of similar material and would therefore be expected to have similar characteristics.

Claims 23-37, and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goyal et al (US 5,989,020) in view of Bhargava et al (US 5,106,828). Goyal teaches a biaxially textured article comprising a substrate, a buffer layer, and superconductor layer thereon. The article of Goyal may be a tape. Goyal does not teach multiple films of the same superconductor material. Bhargava teaches a method of fabricating superconductors by sol-gel process in which the superconductor layers are formed by spraying a film of the sol onto a substrate, and building up the film thickness by successive applications. Bhargava also teaches similar superconductor material. As it is clearly taught by Bhargava that a successful method of deposition of superconductor layers on a substrate includes successive deposition, it would have been obvious to one of ordinary skill in the art to form the individual layers of Goyal by the method taught by Bhargava in which each of the superconductor layers is built up to the desired thickness by successive applications of the same material.

Regarding claims 24-27, the substrate may comprise a metal including nickel, nichrome, and Inconel. It would have been obvious to form the substrate of a metal material commonly used for

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superconductor substrates as it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice (*In re Leshin*, 125 USPQ 416).

Regarding claim 30, the buffer layer may comprise YSZ.

Regarding claims 31-34, Goyal teaches YBCO or ReBCO. Samarium is a rare earth metal and would be considered an obvious choice for ReBCO.

Regarding claims 35-37, it would have been obvious to one of ordinary skill to deposit as many successive layers as needed to form the desired thickness.

Regarding claims 41 and 42, the article of Goyal is made of similar material and would therefore be expected to have similar characteristics.

Response to Arguments

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the

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THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer C. McNeil whose telephone number is 571-272-1540. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer McNeil
October 15, 2005